WHAT IS CLAIMED IS:

1. A compound of formula (I):

$$R_3$$
 R_4
 R_4
 R_4
 R_5
 R_5
 R_5
 R_1

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 R_1 is $N = \mathbb{R}^a$, aryl, or heteroaryl;

each of R₂, R₄, and R₅, independently, is R^c, halogen, nitro, nitroso, cyano, azide, isothionitro, SR^c, or OR^c;

9 R₃ is R^c, alkenyl, aryl, heteroaryl, cyclyl, heterocyclyl, OR^c, OC(O)R^c, SO₂R^c,

10 S(O)R^c, S(O₂)NR^cR^d, SR^c, NR^cR^d, NR^cCOR^d, NR^cC(O)OR^d, NR^cC(O)NR^cR^d, NR^cSO₂R^d, COR^c,

11 C(O)OR^c, or C(O)NR^cR^d;

n is 0, 1, 2, 3, 4, 5, 6, or 7;

13 X is O, S, S(O), S(O₂), or NR^c ;

Y is a covalent bond, CH_2 , C(O), $C=N-R^c$, $C=N-OR^c$, $C=N-SR^c$, O, S, S(O), or $S(O_2)$;

15 Z is N; and

W is O, S, S(O), S(O₂), NR^c , or $NC(O)R^c$;

in which each of R^a and R^b , independently, is H, alkyl, aryl, heteroaryl; and each of R^c and R^d , independently, is H, alkyl, or alkylcarbonyl.

- 2. The compound of claim 1, $N = R^a$ wherein R_1 is .
- The compound of claim 2, wherein W is O.
- 24 4. The compound of claim 3, wherein R_5 is H or alkyl.

- 26 5. The compound of claim 2, wherein X is NR^c.
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- 28 6. The compound of claim 5, wherein R^c is H, methyl, ethyl, or acetyl.

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7. The compound of claim 2, wherein Y is O or CH₂, and n is 0, 1, 2, 3, or 4.

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32 8. The compound of claim 7, wherein R_3 is anylor heteroaryl.

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9. The compound of claim 8, wherein R_3 is pyridinyl.

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The compound of claim 7, wherein R₃ is OR^c, SR^c, C(O)OR^c, or C(O)NR^cR^d.

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11. The compound of claim 7, wherein R_3 is

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- in which each of A and A', independently, is O, S, or NH;
- each of R^e and R^f, independently is H, alkyl, aryl, or heteroaryl; and
- 42 m is 1 or 2.

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12. The compound of claim 2, wherein one of R^a and R^b is

$$\{R^{h_{p}}, A^{h_{q}}, A^{h_{q}}, A^{h_{q}}, A^{h_{q}}\}$$

- in which B is NRⁱ, O, or S;
- 47 B' is N or CRⁱ;
- 48 R^g is H, alkyl, or alkoxyl;
- R^h is halogen, CN, hydroxyl, alkyl, aryl, heteroaryl, alkoxyl, aryloxyl, or heteroaryloxyl;
- 50 Rⁱ is H, alkyl, or alkylcarbonyl;
- p is 0, 1, or 2; and
- q is 0, 1, 2, 3, or 4.

13. The compound of claim 12, wherein one of R^a and R^b is

$$\mathbb{R}^{q}$$
 or $\mathbb{R}^{h_{q}}$; and

the other of R^a and R^b is alkyl.

14. The compound of claim 13, wherein R^g is H, methyl, ethyl, methoxy, or ethoxy; R^h is F, Cl, CN, methoxy, methyl, or ethoxy; Rⁱ is H, methyl, ethyl, or acetyl, and q is 0, 1, or 2.

15. The compound of claim 14, wherein R^g is methyl or methoxy; Rⁱ is H; and q is 0.

16. The compound of claim 14, wherein W is O; and R_5 is H or alkyl.

The compound of claim 16, wherein X is NR^c; and R^c is H, methyl, ethyl, or acetyl.

The compound of claim 17, wherein Y is O or CH₂; and n is 0, 1, 2, 3, or 4.

The compound of claim 18, wherein R_3 is aryl or heteroaryl.

20. The compound of claim 19, wherein R_3 is pyridinyl.

21. The compound of claim 14, wherein Y is O or CH₂, and n is 0, 1, 2, 3, or 4.

22. The compound of claim 21, wherein R_3 is anylor heteroaryl.

23. The compound of claim 22, wherein R_3 is pyridinyl.

24. The compound of claim 1, wherein R_1 is anylor heteroaryl.

82 25. The compound of claim 24, wherein R_1 is

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in which D is O, S, or NR^m;

D' is N or CR^m ;

R^j is halogen, CN, hydroxyl, alkyl, aryl, heteroaryl, alkoxyl, aryloxyl, or heteroaryloxyl;

R^k is aryl or hetereoaryl;

R¹ is H, alkyl, or alkylcarbonyl;

R^m is H, alkyl, or alkylcarbonyl;

r is 0, 1, or 2;

91 s is 0 or 1;

92 t is 0, 1, 2, 3, or 4; and

93 u is 0, 1, 2, 3, 4, or 5.

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The compound of claim 25, wherein X is NR^c; and R^c is H, methyl, ethyl, or acetyl.

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27. The compound of claim 26, wherein W is O; and R_5 is H or alkyl.

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28. The compound of claim 27, wherein Y is O or CH₂; and n is 0, 1, 2, 3, or 4.

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29. The compound of claim 25, wherein Y is O or CH₂; and n is 0, 1, 2, 3, or 4.

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30. The compound of claim 29, wherein R_3 is anylor heteroaryl.

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31. The compound of claim 30, wherein R_3 is pyridinyl.

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The compound of claim 29, wherein R₃ is OR^c, SR^c, C(O)OR^c, or C(O)NR^cR^d.

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The compound of claim 29, wherein R_3 is

$$R^{f} \xrightarrow{A' - (f)_{m}} Or \qquad R^{f} \xrightarrow{A' - (f)_{m}} A'$$

in which each of A and A', independently, is O, S, or NH;

each of R^e and R^f, independently is H, alkyl, aryl, or heteroaryl; and

m is 1 or 2.

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34. The compound of claim 29, wherein R_1 is

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35. The compound of claim 34, wherein R^j is methyl, ethyl, propyl, or benzyl; and r is

120 1 or 2.

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36. A compound of formula (I):

$$R_3$$
 R_4
 R_4
 R_4
 R_5
 R_5
 R_5
 R_1

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wherein

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$$R_1$$
 is $N = \begin{pmatrix} R^a \\ R^b \end{pmatrix}$, aryl, or heteroaryl;

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each of R₂, R₄, and R₅, independently, is R^c, halogen, nitro, nitroso, cyano, azide, isothionitro, SR^c, or OR^c;

130 R₃ is R^c, alkenyl, alkynyl, aryl, heteroaryl, cyclyl, heterocyclyl, OR^c, OC(O)R^c, SO₂R^c,

S(O)R^c, S(O₂)NR^cR^d, SR^c, NR^cR^d, NR^cCOR^d, NR^cC(O)OR^d, NR^cC(O)NR^cR^d, NR^cSO₂R^d, COR^c,

132 $C(O)OR^c$, or $C(O)NR^cR^d$;

- n is 0, 1, 2, 3, 4, 5, 6, or 7;
- 134 X is O, S, S(O), S(O₂), or NR c ;
- Y is a covalent bond, CH₂, C(O), C=N-R^c, C=N-OR^c, C=N-SR^c, O, S, S(O), S(O₂), or
- 136 NR^c;
- 137 Z is CH; and
- W is O, S, S(O), $S(O_2)$, NR^c , or $NC(O)R^c$;
- in which each of R^a and R^b, independently, is H, alkyl, aryl, heteroaryl; and each of R^c
- and R^d, independently, is H, alkyl, or alkylcarbonyl.
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- 142 37. The compound of claim 36, $N = \bigcap_{D^b}^{R^a}$ wherein R_1 is .
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- The compound of claim 37, wherein W is O; and R_5 is H or alkyl.
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- The compound of claim 37, wherein X is NR^c; and R^c is H, methyl, ethyl, or
- 147 acetyl.
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- The compound of claim 37, wherein Y is O or CH₂, and n is 0, 1, 2, 3, or 4.
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41. The compound of claim 37, wherein one of R^a and R^b is

$$\mathbb{R}^{h_p}$$
, \mathbb{R}^{h_q} , or \mathbb{R}^{h_q}

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- in which B is NRⁱ, O or S;
- B' is N, CH, or CRⁱ;
- 155 R^g is H, alkyl, or alkoxyl;
- 156 R^h is halogen, CN, hydroxyl, alkyl, aryl, heteroaryl, alkoxyl, aryloxyl, or heteroaryloxyl;
- 157 Rⁱ is H, alkyl, or alkylcarbonyl;
- p is 0, 1, or 2; and

q is 0, 1, 2, 3, or 4.

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The compound of claim 36, wherein R_1 is anylor heteroaryl.

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163 43. The compound of claim 42, wherein W is O; and R_5 is H or alkyl.

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165 44. The compound of claim 42, wherein X is NR^c; and R^c is H, methyl, ethyl, or

166 acetyl.

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168 45. The compound of claim 42, wherein Y is O or CH_2 , and n is 0, 1, 2, 3, or 4.

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170 46. The compound of claim 42, wherein R_1 is

$$R^{i}_{r}$$
, R^{i}_{g} , or R^{i}_{t}

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- in which D is O, S, or NR^m;
- D' is N or CR^m ;
- 174 R^j is halogen, CN, hydroxyl, alkyl, aryl, heteroaryl, alkoxyl, aryloxyl, or heteroaryloxyl;
- R^k is aryl or hetereoaryl;
- 176 R¹ is H, alkyl, or alkylcarbonyl;
- 177 R^m is H, alkyl, or alkylcarbonyl;
- 178 r is 0, 1, or 2;
- 179 s is 0 or 1;
- t is 0, 1, 2, 3, or 4; and
- u is 0, 1, 2, 3, 4, or 5.

47. A method for treating an interleukin-12 overproduction-related disorder,

comprising administering to a subject in need thereof an effective amount of the compound of

formula (I):

$$R_{3} \xrightarrow{\stackrel{R_{2}}{\stackrel{}{\stackrel{}}{\stackrel{}}}} X \xrightarrow{\stackrel{}{\stackrel{}{\stackrel{}}{\stackrel{}}}} X \xrightarrow{\stackrel{}{\stackrel{}{\stackrel{}}{\stackrel{}}}} R_{1}$$

wherein

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188 R_1 is $N = \bigcap_{b}^{R^a}$, aryl, or heteroaryl;

each of R₂, R₄, and R₅, independently, is R^c, halogen, nitro, nitroso, cyano, azide, isothionitro, SR^c, or OR^c;

192 R₃ is R^c, alkenyl, alkynyl, aryl, heteroaryl, cyclyl, heterocyclyl, OR^c, OC(O)R^c, SO₂R^c,
193 S(O)R^c, S(O₂)NR^cR^d, SR^c, NR^cR^d, NR^cCOR^d, NR^cC(O)OR^d, NR^cC(O)NR^cR^d, NR^cSO₂R^d, COR^c,
194 C(O)OR^c, or C(O)NR^cR^d;

n is 0, 1, 2, 3, 4, 5, 6, or 7;

196 X is O, S, S(O), S(O₂), or NR^c ;

Y is a covalent bond, CH₂, C(O), C=N-R^c, C=N-OR^c, C=N-SR^c, O, S, S(O), S(O₂), or

198 NR^c;

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Z is N or CH; and

W is O, S, S(O), S(O₂), NR^c, or NC(O)R^c;

in which each of R^a and R^b , independently, is H, alkyl, aryl, heteroaryl; and each of R^c and R^d , independently, is H, alkyl, or alkylcarbonyl.

48. The method of claim 47, wherein the disorder is rheumatoid arthritis, sepsis, Crohn's disease, multiple sclerosis, psoriasis, or insulin-dependent diabetes mellitus.